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Manufacture of Wine from Beetroot.

LETTERS PATENT to Edward Griffith Brewer, of 33, Chancery Lane, in the County of Middlesex, for an Invention of "A NEW OR IMPROVED MANUFACTURE OF WINE FROM BEETROOT." A communication from abroad by Arthur Brin and Leon Quentin Brin, both of Paris, France.

PROVISIONAL SPECIFICATION left by the said Edward Griffith Brewer at the Office of the Commissioners of Patents on the 13th January 1882.

EDWARD GRIFFITH BREWER of 33 Chancery Lane in the County of Middlesex. "A NEW OR IMPROVED MANUFACTURE OF WINE FROM BEETROOT." (A communication from abroad by Arthur Brin and Leon Quentin Brin both of Paris France.)

For the production of red wine according to this Invention the red beetroot is employed and for white wine the white beetroot.

First. Red Wine. The beetroot can be used raw or cooked but in order not to lose too much of its bright red colour it is preferred to use it cooked. That beetroot should be chosen which has not a bad taste which becomes developed during the fermentation, that is, it must be of very good quality and be well washed.

The cooking takes place in a boiler or with more facility in a digester or simply by free steam; at this stage it is reduced to pulp by means of suitable pulping apparatus and the more completely it is pulped the better the result will be. The pulp may at this stage be put to ferment, but it is preferred to place it in very strong linen cloths or canvas bags and then submit it to powerful pressure in order to extract from it the greatest amount of juice possible. This juice is immediately put into vessels made of wood which are specially intended to hold it during the fermentation carefully avoiding its coming in contact with any metal; these receivers may, however, be made of brick lined inside with a thick layer of Portland cement or other silicate. These receivers or reservoirs are internally provided with sepentine coils for steam or for hot water or even free steam. By this means the process of fermentation may be regulated at will. The juice of the

beetroot, to which may be added if desired a certain quantity of water, is immediately put into fermentation so as to transform the entire mass into juice of a vinous nature; the substances are then added which are necessary to finish the work called fermentation, these products are sprouting barley or malted, the yeast of beer or of grains, of raisins or still better some rounds or slices of apple or pearl barley. Alcohol may be added in quantity according to the strength of wine desired to be produced.

As soon as the work of fermentation is finished the whole of the liquid mass is strained by means of tannin of broken or crushed oak or in solution then it is allowed to rest one or two nights and filtered should that be thought necessary and it is allowed to cool. The wine obtained by this process is said to possess all the qualities of grape wine; the remainder of the treatment is the same as for wine obtained from grape juice. These wines owing to their saccharíferous qualities will much improve wines poor in sweetness and rich in tannin.

According to requirement alcohol may be added and tartaric acid when more power is required to be given to it as well as colour and perfume.

Raw beetroot may be employed but from the trials already made it has been found preferable to cook it first if only to force it to expand by the heat and to yield all its sugar to the mixing waters which are increased as desired. Besides the cooked beetroot produces wines of better taste and much finer than when the beetroot is used uncooked.

Second. To make White Wine. The white beetroot is used either cooked or raw, it is treated like the red beetroot but at the moment of fermentation a little nitric acid is added, afterwards the whole of the liquid contained in the fermenting receivers is shaken and the juice of sprouting barley, or malted or natural barley roughly ground is added.

The pure beetroot red wine has such a brilliant colour that it can be employed with great advantage to colour and enrich all natural wines deficient in colour as well as in condition and for crossing or blending with glucose wines of all kinds.

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said Edward Griffith Brewer in the Great Seal Patent Office on the 13th July 1882.

EDWARD GRIFFITH BREWER of 33 Chancery Lane in the County of Middlesex. "A NEW OR IMPROVED MANUFACTURE OF WINE FROM BEETROOT." (A communication from abroad by Arthur Brin and Leon Quentin Brin both of Paris France.)

In the face of ineffectual attempts for several years past to remedy the vine disease which seems to increase more and more daily the inventors have thought that the time has arrived to study the production of a new product capable of giving in a nutritious point of view analogous results to those of wine completely dispensing, in the manufacture of this product, with every chemical agent and any treatment capable of being injurious to health.

For the production of red wine according to this Invention the red beetroot is employed, and for white wine, the white beetroot.

First: Red wine: The beetroot can be used raw or cooked but in order not to lose too much of its bright red colour it is preferred to use it cooked.

That beetroot should be chosen which has not a bad taste which becomes developed during the fermentation that is it must be of very good quality and be well washed.

The cooking takes place in a boiler or with more facility in a digester or simply by free steam; at this stage it is reduced to pulp by means of suitable pulping apparatus and the more completely it is pulped the better the result will be. The pulp may at this stage be put to ferment but it is preferred to place it in very strong linen cloths or canvas bags and then submitted to powerful pressure in order to extract from them the greatest amount of juice possible. This juice is immediately put into vessels preferably made of wood which are specially intended to hold it during the fermentation carefully avoiding its coming in contact with any metal; these receivers may however be made of brick lined inside with a thick layer of Portland cement or other silicate. These receivers or reservoirs are internally provided with serpentine coils for steam or for hot water or even free steam. By this means the process of fermentation may be regulated at will.

The juice of the beetroot to which may be added if desired a certain quantity of water, is immediately put into fermentation so as to transform the entire mass into juice of a vinous nature; the substances are then added which are necessary to finish the work called fermentation, these products are sprouting barley or malted, the yeast of beer or of grains, of slices of apple, or pearl barley. Alcohol may be added in quantity according to the strength of wine desired to be produced.

As soon as the work of fermentation is finished the whole of the liquid mass is strained by means of tannin of broken or crushed oak or in solution, then it is allowed to rest one or two nights and filtered, should that be thought necessary, and it is allowed to cool. The wine obtained by this process is said to possess all the qualities of grape wine; the remainder of the treatment is the same as for wine obtained from grape juice. These wines owing to their sacchariferous qualities will much improve wines poor in sweetness and rich in tannin.

According to requirement alcohol may be added and tartaric acid when more power is required to be given to it as well as colour and perfume.

Raw beetroot may be employed but from the trials already made it has been found preferable to cook it first if only to force it to expand by the heat and to yield all its sugar to the mixing waters which are increased as desired. Besides

the cooked beetroot produces wines of better taste and much finer than when the beetroot is used uncooked.

Second: To make White Wine. The white beetroot is used either cooked or raw, it is treated like the red beetroot but at the moment of fermentation a little nitric acid is added, afterwards the whole of the liquid contained in the fermenting receivers is shaken and the juice of sprouting barley, or malted or natural barley roughly ground is added. It is by this process a natural wine is said to be produced of very great service in an alimentary point of view.

The pure beetroot red wine has such a brilliant colour that it can be employed with great advantage to colour and enrich all natural wines deficient in colour as well as in condition and for crossing or blending with glucose wines of all kinds.

Having now described the nature of the said Invention and in what manner the same is to be performed I declare that I claim:—

First: The employment of red or white beetroot for the manufacture of wine.

Second: The process hereinbefore described consisting in reducing the beetroot whether cooked or raw to pulp and preserving during the fermentation its brilliant colour.

Third: The addition of oak tannin which gives quality and body to the beetroot wines as well as glucose.

Fourth: The arrangement of a thermo syphon or other analogous apparatus maintaining a soft temperature and regulated at will and that in the interior as well as the exterior of the vessels.

Fifth: The application of beetroot wine as a colouring material and as a mixture with other wines even before fermentation.

Sixth: In the fermentation (which is carried on in a cold or hot state although in the first case it would be less rapid) the employment of all the products employed by direct mixing with the view of obtaining the effect indicated under the denomination of fermentation, in presence of the beetroot juice raw or cooked from the moment where these products are intended to obtain an alcoholic, vinous or acetic fermentation.

Seventh: The mode and means substantially as above described for the manufacture of wine from beetroot together with any mere modification thereof.

In witness whereof I the said Edward Griffith Brewer have hereunto set my hand and seal this Thirteenth day of July in the year of our Lord One thousand eight hundred and eighty two.

E. G. BREWER. (L.S.)

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